



US006647854B1

(12) **United States Patent**
Stottlemeyer et al.

(10) **Patent No.:** **US 6,647,854 B1**
(45) **Date of Patent:** **Nov. 18, 2003**

(54) **DEVICE AND METHOD FOR
NEUTRALIZATION OF UNDERWATER
MINES**

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(*) **Notice:** Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: 10/244,927

(22) Filed: Sep. 12, 2002

(51) Int. Cl.⁷ B63G 7/02; B63G 7/06;
B63G 7/08

(52) U.S. Cl. 89/1.13; 102/402; 102/403

(58) Field of Search 89/1.13; 102/402-403

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,951,571 A * 8/1990 Bane 102/402
4,970,957 A * 11/1990 Backstein et al. 102/403
5,042,387 A * 8/1991 Backstein 102/402
5,277,117 A * 1/1994 Bender et al. 102/402
5,361,675 A * 11/1994 Spektor et al. 89/1.13

5,708,230 A * 1/1998 Woodall et al. 102/402
5,844,159 A * 12/1998 Posseme et al. 89/1.13
6,286,431 B1 * 9/2001 Cangelosi 102/402

FOREIGN PATENT DOCUMENTS

DE 4010686 A1 * 10/1991 B63G/7/02
EP 308698 A1 * 3/1989 B63G/7/02

* cited by examiner

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(57) **ABSTRACT**

A method and device to neutralize influence mines has a control module to generate signals representative of acoustic and magnetic signatures of a ship. These representative signals will either detonate the threat mines or ensure that transiting ships will not set off the mines. An acoustic transducer array is coupled to the module to transmit acoustic signals representative of the acoustic portion of the signatures. A magnetic signal transmitter is coupled to the module to transmit magnetic signals representative of the magnetic portion of the signatures. An anchor is connected to the module, acoustic array, and magnetic signal transmitter to hold them at the ocean bottom, and a buoy is connected to the module, acoustic transducer array, and magnetic signal transmitter to hold the device vertically.

7 Claims, 3 Drawing Sheets

